

JVC



LYT1982-001B-M

INSTRUCTIONS MANUEL D'UTILISATION

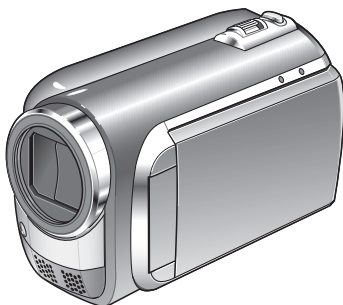


HARD DISK CAMERA CAMÉSCOPE À DISQUE DUR

GZ-MG680 **U**

GZ-MG650 **U**

GZ-MG630 **U**



Please read the instruction manual prior to connecting or operating this product.

Veuillez lire le mode d'emploi avant de connecter ou utiliser ce produit.



PLEASE DO NOT IMMEDIATELY RETURN THIS PRODUCT TO YOUR PLACE OF PURCHASE. ASSISTANCE IN PRODUCT HOOK-UP AND USE IS AVAILABLE AT:
www.jvc.ca or by phone at 1-800-964-2650



VEUILLEZ NE PAS RETOURNER IMMÉDIATEMENT CE PRODUIT À L'ENDROIT D'ACHAT D'ORIGINE. DE L'AIDE POUR LA CONFIGURATION ET L'UTILISATION DU PRODUIT EST DISPONIBLE À:
www.jvc.ca ou par téléphone au 1-800-964-2650

Dear Customers

Thank you for purchasing this camcorder. Before use, please read the safety information and precautions contained in pages 2 and 3 to ensure safe use of this product.

For Future Reference:

Enter the Model No. (located on the bottom of the camcorder) and Serial No. (located on the battery pack mount of the camcorder) below.

Model No. _____

Serial No. _____

Cher client,

Nous vous remercions d'avoir acheté ce caméscope. Avant de commencer, veuillez lire les informations et les précautions de sécurité présentées dans les pages 2 et 3 pour utiliser cet appareil en toute sécurité.

Pour consultation ultérieure:

Noter ci-dessous le N° de modèle (figurant sous le caméscope) et le N° de série (sur le logement de la batterie du caméscope).

N° de modèle _____

N° de série _____



Safety Precautions



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

NOTES:

- The rating plate and safety caution are on the bottom and/or the back of the main unit.
- The serial number plate is on the battery pack mount.
- The rating information and safety caution of the AC adapter are on its upper and lower sides.

Caution on Replaceable lithium battery

The battery used in this device may present a fire or chemical burn hazard if mistreated.

Do not recharge, disassemble, heat above 100°C or incinerate.

Replace battery with Panasonic, Sanyo, Sony or Maxell CR2025.

Danger of explosion or Risk of fire if the battery is incorrectly replaced.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

For USA-California Only

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material – special handling may apply.

See www.dtsc.ca.gov/hazardouswaste/perchlorate

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm (3-15/16") or more on both sides, on top and at the rear). Do not block the ventilation holes.

(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)

No naked flame sources, such as lighted candles, should be placed on the apparatus.

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

The apparatus shall not be exposed to dripping or splashing.

Do not use this equipment in a bathroom or places with water.

Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit. (If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

Do not point the lens directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION!

The following notes concern possible physical damage to the camcorder and to the user.

Carrying or holding the camcorder by the LCD monitor can result in dropping the unit, or in a malfunction.

Do not use a tripod on unsteady or uneven surfaces. It could tip over, causing serious damage to the camcorder.

CAUTION!

Connecting cables (Audio/Video, S-Video, etc.) to the camcorder and leaving it on top of the TV is not recommended, as tripping on the cables will cause the camcorder to fall, resulting in damage.

CAUTION:

The mains plug shall remain readily operable.

WARNING:

Batteries, including lithium batteries installed in the camcorder and the remote control, should not be exposed to excessive heat such as direct sunshine, fire or the like.

IMPORTANT SAFETY INSTRUCTIONS


1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Remember that this camcorder is intended for private consumer use only.

Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

Trademarks

- Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- HDMI is a trademark of HDMI Licensing, LLC. 
- Windows® is either registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- Macintosh is a registered trademark of Apple Inc.
- iTunes is a trademark of Apple Inc registered in the U.S. and other countries.
- YouTube and the YouTube logo are trademarks and/or registered trademarks of YouTube LLC.
- Other product and company names included in this instruction manual are trademarks and/or registered trademarks of their respective holders.



If this symbol is shown, it is only valid in the European Union.

Easy Start Guide

Charge the battery before recording

Turn off the camcorder and attach the battery pack.

Access lamp

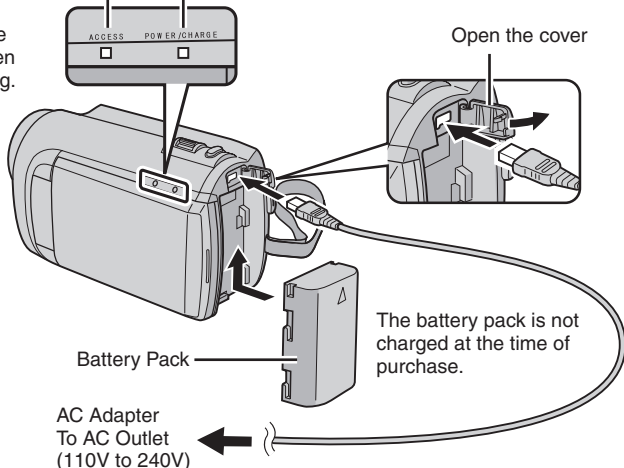
blinks: Accessing files

Do not remove the AC adapter, the battery pack or the microSD card when the lamp is blinking.

Power/charge lamp

blinks: Charging

goes out: Charging finished



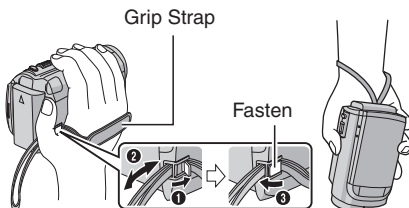
CAUTION

- Be sure to use JVC battery packs. If you use any other battery packs besides JVC battery packs, safety and performance can not be guaranteed.

Grip Adjustment

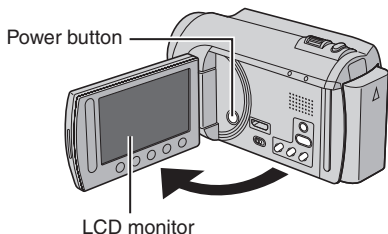
Adjust the strap and fasten.

- Fasten the strap when you grip the camcorder.
- When carrying the camcorder, please be careful not to drop it.



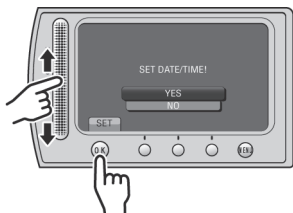
Date/Time Setting

1 Open the LCD monitor to turn on the camcorder



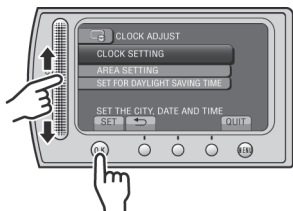
2 Select [YES] within 10 seconds

Slide your finger up and down on the sensor. Then touch **OK**.

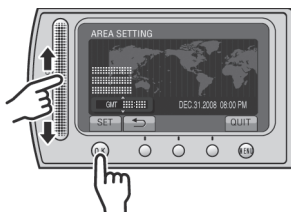


- When the message disappears, press the power button for at least 2 seconds to turn off the power, and then press it again for at least 2 seconds.
- Touch the sensors with your finger. The sensors do not function if you touch them with your finger nail or with gloves on.

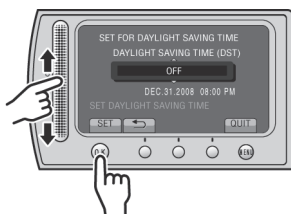
3 Select [CLOCK SETTING]



4 Select the city closest to the area where you use the camcorder



5 Select [ON] if daylight saving time is effective

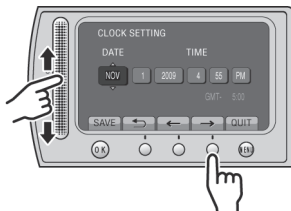


6 Set the date and time

Touch sensor: Sets the date and time

→: Moves the cursor to the right

OK: Clock starts

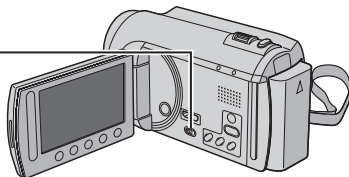


Video recording

CAUTION

Before recording an important scene, it is recommended to conduct a trial recording.

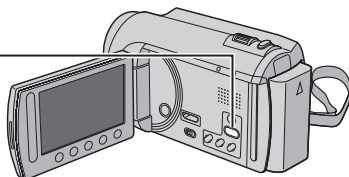
- 1 Slide the mode switch to select  (video) mode



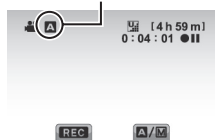
- 2 Select recording mode



The mode changes when you press the button.



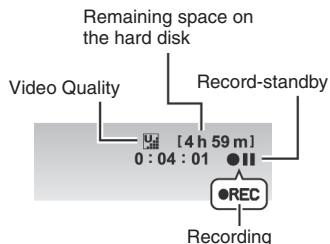
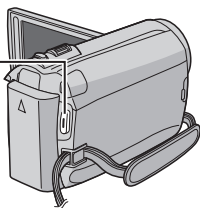
The auto recording indicator appears.



- 3 Start recording



Press the **START/STOP** button to start recording, and press it again to stop.



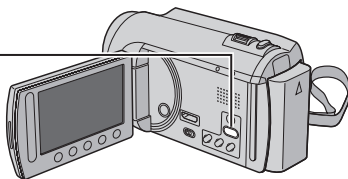
Playing back

1 Select playback mode

PLAY / REC



The mode changes when you press the button.



2 Select the desired file

Index screen



3 Select ► (Touch OK)

Playback screen



- To perform operations such as forward search or reverse search (➡ p. 22)
- To view files on TV (➡ p. 25)

CAUTION

Do not forget to make copies after recording!

- To copy files onto DVD discs (➡ p. 27)
- To dub files to a VCR/DVD recorder (➡ p. 34)
- To play back a created disc (➡ p. 28)
- To edit files on your computer (➡ p. 29)

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COPYING

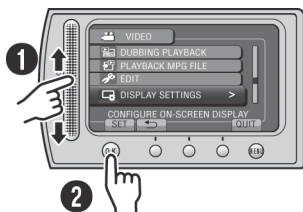
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FURTHER INFORMATION

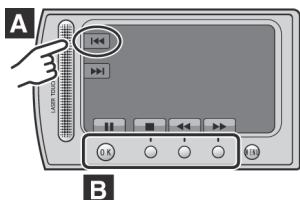
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How to use the Touch Sensor

After the menu is displayed on the LCD monitor:



- 1 Slide your finger up and down on the sensor.
- 2 Select [SET]. (Touch OK.)



- A To select an on-screen button appearing on the left side, touch the portion of the sensor next to the on-screen button.
- B To select an on-screen button appearing at the bottom of the screen, touch the buttons underneath them.

Read these INSTRUCTIONS to enjoy your CAMCORDER. For more details on the operations, refer to the GUIDEBOOK in the supplied CD-ROM.



In order to view the GUIDEBOOK, Adobe® Acrobat® Reader™ or Adobe® Reader® must be installed. Adobe® Reader® can be loaded from Adobe's web site:
<http://www.adobe.com/>

NOTE

Select your desired language with a single click. The model name is indicated on the bottom of your camcorder.

Read This First!

Make a backup of important recorded data

It is recommended to copy your important recorded data to a DVD or other recording media for storage. JVC will not be responsible for any lost data.

Make a trial recording

Before the actual recording of important data, make a trial recording and play back the recorded data to check that the video and sound have been recorded correctly.

Reset the camcorder if it does not operate correctly

Close the LCD monitor and remove the power supply (battery pack or AC adapter) from the camcorder, then reattach it.

Precautions on handling batteries

- Be sure to use the JVC BN-VF808U/ VF815U/ VF823U battery packs. This product includes patented and other proprietary technology and is made to be used with the JVC battery and not with other batteries. JVC cannot guarantee safety or performance of this product when it is operated by other batteries.
- If the camcorder is subjected to electrostatic discharge, turn off the power before using it again.

If a malfunction occurs, stop using the camcorder immediately and contact www.jvc.ca or by phone at 1-800-964-2650

- Recorded data may be erased while the camcorder is being repaired or inspected. Back up all data before requesting repairs or inspections.

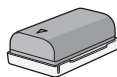
Because camcorders may be used for demonstration in a shop, the demonstration mode is set to on by default. To deactivate the demonstration mode, set [DEMO MODE] to [OFF].

Accessories



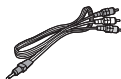
AP-V20U

AC Adapter



BN-VF808U

Battery Pack



AV Cable



USB Cable



RM-V751U

Remote Control



CR2025

Lithium Battery
Pre-installed in the
remote control.



CD-ROM



Core Filter

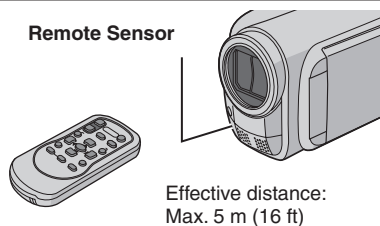
NOTE

Make sure to use the provided cables for connections. Do not use any other cables.

Preparing the Remote Control

A battery is included inside the remote control at the time of purchase. Remove the insulation sheet before use.

Beam Effective Area



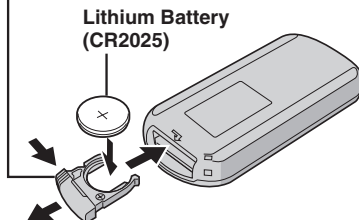
NOTE

The transmitted beam may not be effective or may cause incorrect operation when the remote sensor is directly exposed to sunlight or powerful lighting.

To Reinsert the Battery

Pull out the battery holder by pressing the lock tab.

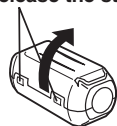
Lock Tab



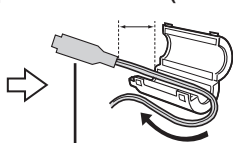
Attaching the Core Filter to the USB Cable

The core filter reduces interference caused when connecting to other devices. Connect the end of the cable with the core filter to the camcorder.

Release the stopper.



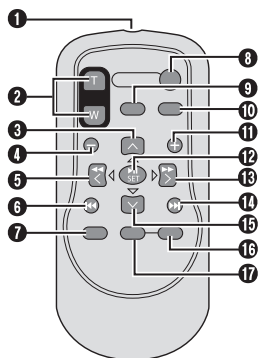
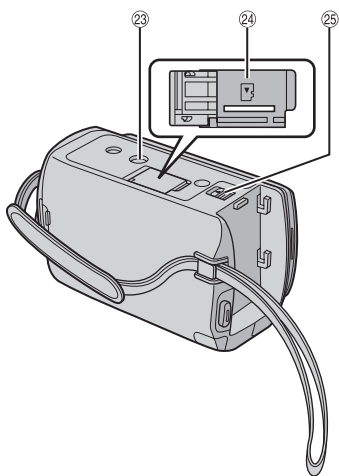
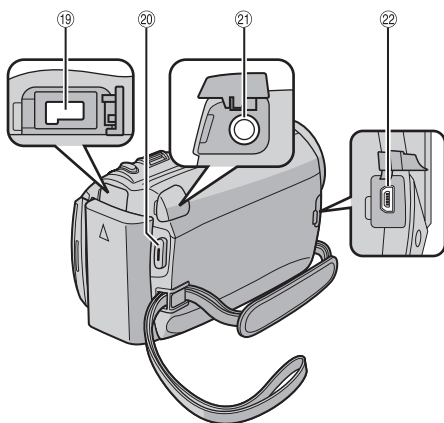
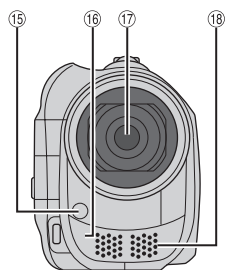
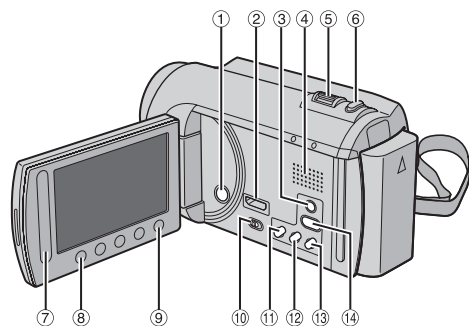
3 cm (1-3/16")



Wind once.

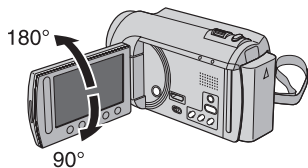


Index



NOTE

- Be careful not to cover 15, 16, 17, and 18 during shooting.
- The LCD monitor can rotate 270°.



Camcorder

- ① Power Button
- ② **GZ-MG680** HDMI Mini Connector (➡ p. 25)
- ③ **DISPLAY** Button (➡ p. 15)
- ④ Speaker
- ⑤ Zoom Lever (➡ p. 21)
Speaker Volume Control
- ⑥ **SNAPSHOT** Button (➡ p. 20)
- ⑦ Touch Sensor
- ⑧ **OK** Button
- ⑨ **MENU** Button
- ⑩ Mode Switch [👤, 📷]
- ⑪ **UPLOAD** Button (➡ p. 36)
TITLE Button
- ⑫ **EXPORT** Button (➡ p. 35)
- ⑬ **DIRECT DVD** Button (➡ p. 28)
INFO Button (➡ p. 21)
- ⑭ **PLAY/REC** Button (➡ p. 19, 20, 22, 23)
- ⑮ LED Light (➡ p. 21)
- ⑯ Remote Sensor
- ⑰ Lens
- ⑱ Stereo Microphone
- ⑲ DC Connector
- ⑳ **START/STOP** Button (➡ p. 19)
- ㉑ AV Connector (➡ p. 25, 34)
- ㉒ USB Connector (➡ p. 27, 30)
- ㉓ Tripod Mounting Socket
- ㉔ microSD Card Slot
- ㉕ Battery Release Button

Remote Control

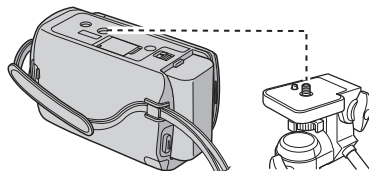
- ① Infrared Beam Transmitting Window
- ② **ZOOM (T/W)** Buttons (Zoom in/Out)
- ③ Up Button
- ④ Skip Backward Button
- ⑤ Left Button
- ⑥ Back Button
- ⑦ **PLAYLIST** Button
- ⑧ **START/STOP** Button
- ⑨ **S.SHOT(SNAPSHOT)** Button
- ⑩ **INFO** Button
- ⑪ Skip Forward Button
- ⑫ **PLAY/PAUSE/SET** Button
- ⑬ Right Button
- ⑭ Next Button
- ⑮ Down Button
- ⑯ **INDEX** Button*
- ⑰ **DISP** Button

* Each time you press **INDEX**, the screen switches as shown below:

👤 mode:
Index Screen ↔ Group Index Screen
📷 mode:
Index Screen ↔ Date Index Screen

Tripod Mounting

Align the camcorder stud hole with the tripod stud, and the mounting socket with the screw, and then rotate the camcorder clockwise to mount it to the tripod.

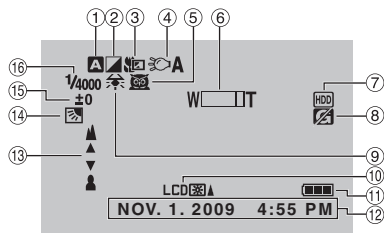


NOTE

Do not use a tripod on unsteady or uneven surfaces. It could tip over, causing serious damage to the camcorder.

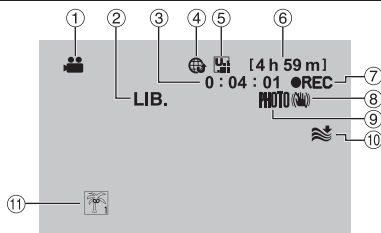
Indications on LCD Monitor

During both Video and Still Image Recording



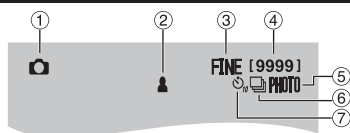
- ① Selected Recording Mode Indicator (p. 24)
A: Auto Mode
M: Manual Mode
- ② Effect Mode Indicator
- ③ Tele Macro Mode Indicator
- ④ LED Light Indicator (p. 21)
- ⑤ Scene Select Indicator
- ⑥ Zoom Indicator (p. 21)
- ⑦ Recording Medium Indicator
- ⑧ Drop Detection Indicator (Appears when [DROP DETECTION] is set to [OFF].)
- ⑨ White Balance Indicator
- ⑩ Monitor Backlight Indicator
- ⑪ Battery Indicator
- ⑫ Date/Time (p. 16)
- ⑬ Manual Focus Adjustment Indicator
- ⑭ Backlight Compensation Indicator (p. 24)
- ⑮ Brightness Control Indicator
- ⑯ Photometry Area Control Indicator
- ⑰ Shutter Speed

During Video Recording Only



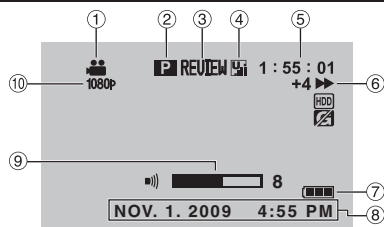
- ① Mode Indicator
- ② EXPORT Mode Indicator (p. 35)
- ③ Counter
- ④ Upload Mode Indicator (p. 36)
GZ-MG680 **GZ-MG650** Analog Input Indicator
- ⑤ Video Quality: **ULTRA FINE**, **FINE**, **NORMAL**, **ECONOMY**
- ⑥ Remaining Time
- ⑦ **REC**: (Appears during recording.)
REC: (Appears during record-standby mode.)
- ⑧ Digital Image Stabilizer (DIS) Indicator (Appears when [DIS] is set to [OFF].)
- ⑨ Shooting Indicator (p. 19)
- ⑩ Wind Cut Indicator
- ⑪ Event Indicator

During Still Image Recording Only



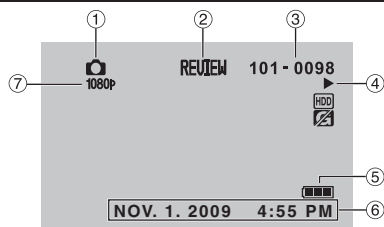
- ① Mode Indicator
- ② Focus Indicator (p. 20)
- ③ Image Quality: **FINE** (fine) or **STD** (standard)
- ④ Remaining Number of Shots
- ⑤ Shooting Indicator (p. 20)
- ⑥ Shutter Mode Indicator
- ⑦ Self-Timer Indicator

During Video Playback



- ① Mode Indicator
- ② Playlist Playback Indicator (Appears when playing back a playlist.)
- ③ Quick Review Indicator (p. 19)
- ④ Video Quality: (ULTRA FINE), (FINE), (NORMAL), (ECONOMY)
- ⑤ Counter
- ⑥ Playback Mode
 - ▶ : Playback
 - ⏸ : Pause
 - ⏭ : Forward Search
 - ⏮ : Reverse Search
 - ⏭▶ : Forward Slow-Motion
 - ⏮⏭ : Reverse Slow-Motion
 (The number on the left shows speed.)
- ⑦ Battery Indicator
- ⑧ Date/Time (p. 16)
- ⑨ Volume Level Indicator
- ⑩ **GZ-MG680** Output with 1080p

During Still Image Playback



- ① Mode Indicator
- ② Quick Review Indicator (p. 20)
- ③ Folder/File Number
- ④ Slide Show Playback Indicator
- ⑤ Battery Indicator
- ⑥ Date/Time (p. 16)
- ⑦ **GZ-MG680** Output with 1080p

Switching indication modes on LCD monitor

Each time you touch **DISPLAY**, indications on LCD monitor switch as shown below;

In recording mode:

All indications/Indications for selected functions

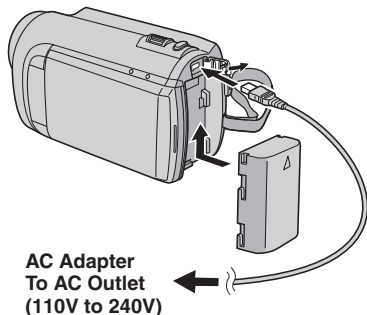
In playback mode:

All indications/Only date and time/No indications

Necessary Settings before Use

Charging the Battery Pack

- 1 Close the LCD monitor to turn off the camcorder.
- 2 Attach the battery pack, then connect the AC adapter.

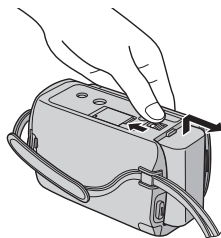


- The power/charge lamp blinks to indicate charging has started.
- When the lamp goes out, charging is finished.

- **To check the remaining battery power**
See page 21.

Battery pack	Charging time
BN-VF808U (Provided)	1 h 50 m
BN-VF815U	2 h 40 m
BN-VF823U	3 h 40 m

- **To detach the battery pack**



NOTE

- You can also use the camcorder with just the AC adapter.
- The actual recording time may shorten depending on the recording environment, such as when recording scenes with fast moving subject.
- Please do not pull or bend the AC adapter plug and cable. This may damage the AC adapter.

Date/Time Setting

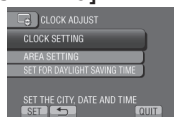
- 1 Open the LCD monitor to turn on the camcorder.
- 2 Touch MENU.
- 3 Select [DISPLAY SETTINGS].



- 4 Select [CLOCK ADJUST].



5 Select [CLOCK SETTING].



6 Select the city closest to the area where you use the camcorder.

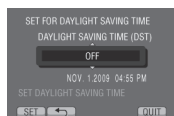
Selected area is highlighted

Principal city of the selected area

Time difference to GMT



7 Select [ON] if daylight saving time is effective.



8 Set the date and time.

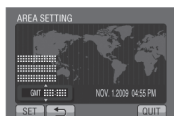
Change the setting by using the touch sensor and select [→] to set.



9 Select [SAVE].

To reset the setting, select [QUIT].

6 Select the city closest to the area you are traveling.



■ To return to the previous screen
Select [←].

■ To quit the screen
Select [QUIT].

Language Setting

The language on the display can be changed.

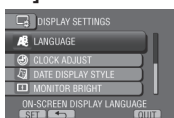
1 Open the LCD monitor to turn on the camcorder.

2 Touch MENU.

3 Select [DISPLAY SETTINGS].



4 Select [LANGUAGE].



5 Select the desired language.

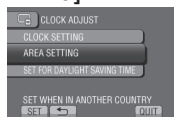
■ To return to the previous screen
Select [←].

■ To quit the screen
Select [QUIT].

Setting the clock to local time when traveling

After performing steps 1-4 (p. 16)

5 Select [AREA SETTING].



Other Settings

Using a microSD Card

The camcorder is programmed to record on the built-in hard disk when it is shipped from the factory. You can change the recording medium to microSD card.

- Operations are confirmed on the following microSD cards.
 - Panasonic
 - TOSHIBA
 - SanDisk
 - ATP

Video recording:

Class 4 or higher compatible microSDHC card (4 GB to 8 GB)

Still image recording:

microSD card (256 MB to 2 GB) or
microSDHC card (4 GB to 8 GB)

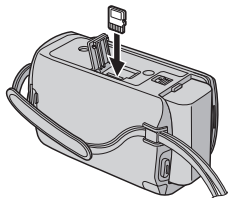
- If other media are used, they may fail to record data correctly, or they may lose data that had already been recorded.
- MultiMediaCards are not supported.

Insert a microSD card

Preparation:

Close the LCD monitor to turn off the camcorder.

- 1 Open the microSD card cover.
- 2 Firmly insert the card with its clipped edge first.



- 3 Close the microSD card cover.

To remove a microSD card

Push the microSD card once.

After the card comes out a little, pull it out.

NOTE

- Insert and remove the microSD card only while the power is turned off. Otherwise, data on the card may be corrupted.
- Do not touch the terminal on the reverse side of the label.

Change the recording medium

Set [REC MEDIA FOR VIDEO] and [REC MEDIA FOR IMAGE] to [SD].



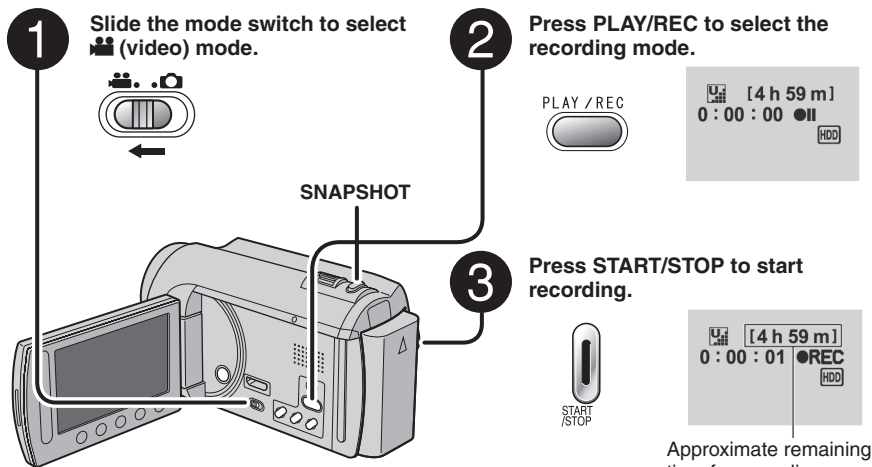
Format a microSD card when using it for the first time

Select [FORMAT SD CARD] to format the card.



Recording Files

Video Recording



■ To stop recording

Press **START/STOP** again.

■ To view the last recorded scene

Select while recording is paused.

Selecting during playback deletes that scene.

■ To record a still image during video recording

Press **SNAPSHOT**.

■ To change the video quality

Change the settings in [VIDEO QUALITY].

■ To change the aspect ratio of the image (16:9/4:3)




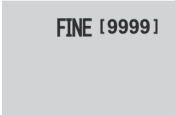





Change the settings in [SELECT ASPECT RATIO].

NOTE

- The video recording mode is automatically selected when you turn off the camcorder and then turn on again.
- If the camcorder is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power.
- Do not move or shake the camcorder suddenly during recording.
If you do so, the driving sound (hum) of the hard disk may be recorded.


Recording Files (Continued)

Still Image Recording

- 1** Slide the mode switch to select  (still image) mode.

- 2** Press **PLAY/REC** to select the recording mode.


- 3** Press and hold **SNAPSHOT** halfway.


The  indicator becomes green when the captured image is focused.
- 4** Press **SNAPSHOT** fully to take a still image.



■ To view the last recorded image

Select  after shooting.

Selecting  during playback deletes that image.

■ To change the image quality

Change the settings in [IMAGE QUALITY].

■ To record still images continuously

Set to [CONTINUOUS SHOOTING] in [SHUTTER MODE].

NOTE

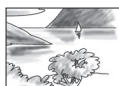
- DIS (Digital Image Stabilizer) does not function during still image recording.
- If the camcorder is not operated for 5 minutes while the power is on, it turns itself off automatically to conserve power.

Zooming

Preparation:

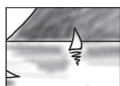
- Select or mode.
- Select the recording mode.

Zoom out



W: Wide angle

Zoom in



T: Telephoto

You can also zoom out/zoom in by selecting [W] or [T] on the LCD monitor. (On-screen zoom control)

Zoom ratio (factory-preset)

mode	mode
[80X/DIGITAL]	[35X/OPTICAL]

■ To change the maximum zoom ratio (movie mode only)

Change the settings in [ZOOM].

NOTE

Macro shooting is possible as close as approx. 5 cm (2") to the subject when the zoom lever is set all the way to **W**.

LED Light

Preparation:

- Select or mode.
- Select the recording mode.

1 Touch MENU.

2 Select [LIGHT].

3 Select the desired setting.

ON	The LED light remains on regardless of the surrounding conditions.
AUTO	The LED light turns on automatically when shooting in insufficient light conditions.
OFF	Deactivates this function.

Checking the Remaining Battery Power

mode:

Press **INFO** twice or **INFO** and then select .

mode:

Press **INFO**.



■ To quit the screen

Select [QUIT] or press **INFO**.

NOTE

The recordable time display should only be used as a guide. It is displayed in 10 minute units.

Checking the Remaining Space on the Recording Media

Preparation:

- Select mode.
- Select the recording mode.

Press **INFO**.



The maximum recording time is displayed for each video quality mode.

■ To change the video quality




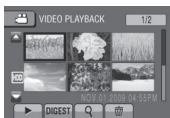
- 1) Select the video quality.
- 2) Select [SET].


■ To quit the screen

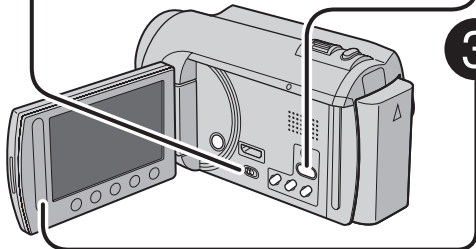
Select [QUIT].



Playing Back Files

Video Playback


- 1 Slide the mode switch to select  (video) mode.

- 2 Press **PLAY/REC** to select the playback mode.



The index screen appears.
- 3 Select the desired file.













■ **To move to the previous or next page**
 Touch  or  for over a second.

■ **To play back a few seconds from the beginning of each video**
 Touch **[DIGEST]**.

■ **To delete a video**
 Select  when playback is stopped.

■ **To change the number of thumbnails (6 thumbnails/20 thumbnails)**
 Move the zoom lever to **[W]**.

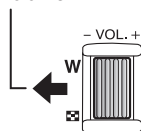
■ Operations during Video Playback On-screen buttons

- : Return to the first scene of the file
- : Go to the first scene of the next file
- : Return to the index screen
- : Reverse search (during playback)
- : Frame-by-frame playback in reverse direction (during pause)*
- : Playback
- : Pause
- : Forward search (during playback)
- : Frame-by-frame playback in forward direction (during pause)*

* Slow playback starts when you keep touching the sensor button under  or  for a while.






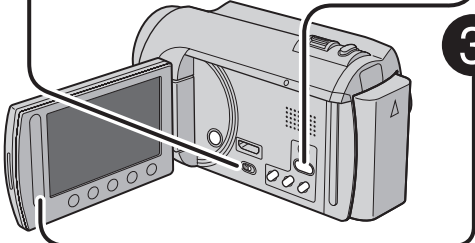
■ Speaker volume

— : Turn down the volume



+ : Turn up the volume

Still Image Playback

- 1** Slide the mode switch to select  (still image) mode.

 - 2** Press **PLAY/REC** to select the playback mode.


The index screen appears.
 - 3** Select the desired file.

- 

■ To move to the previous or next page

Touch **[▲]** or **[▼]** for over a second.

■ To delete a still image

Select .

■ To change the number of thumbnails (6 thumbnails/20 thumbnails)

Move the zoom lever to **[W]**.

■ Operations during Still Image Playback On-screen buttons

- ◀ : Change playback order of slide show in reverse direction
- ▶ : Change playback order of slide show in forward direction
- : Return to the index screen
- ◀◀ : Display the previous file
- ▶▶ : Start the slide show
- || : End the slide show
- ▶▶ : Display the next file

Manual Recording

Manual recording mode enables you to set the focus and screen brightness, etc. manually.

Changing to Manual Recording Mode

Preparation:

- Select or mode.
- Select the recording mode.

Select [A/M] twice.



■ To return to the auto recording mode

Select [A/M] so that the appears.

Backlight Compensation

Backlight compensation brightens the subject by increasing the exposure.

In the manual recording mode:

Select .



■ To cancel backlight compensation

Select again.

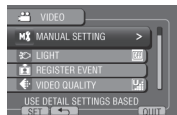
NOTE

If the LCD monitor is turned upside down, is not displayed. Change the setting when the LCD monitor is in the normal position.

Manual Setting in Menu

In the manual recording mode:

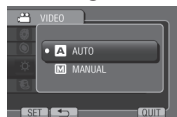
- 1 Touch MENU.
- 2 Select [MANUAL SETTING].



- 3 Select the desired menu.



- 4 Select the desired setting.



Depending on the kind of settings you select, you can set the value by using the touch sensor.

■ To return to the previous screen

Select .

■ To quit the screen

Select [QUIT].

Viewing Files on TV

This camcorder is designed to be used with high-definition or NTSC-type color television signals. It cannot be used with a television of a different standard.

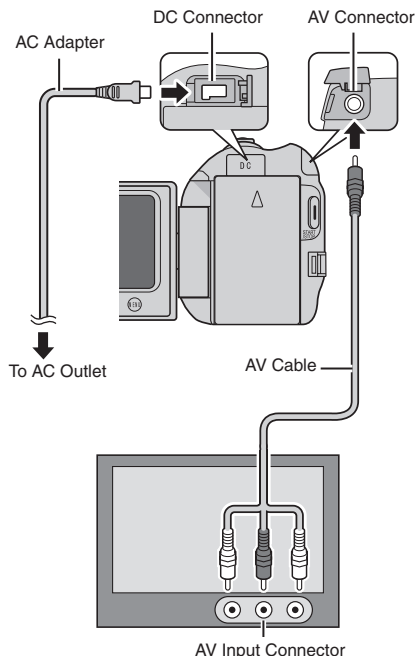
Connection with TV

You can output videos from the AV connector or the HDMI mini connector.

■ To connect using the AV connector

Preparation:

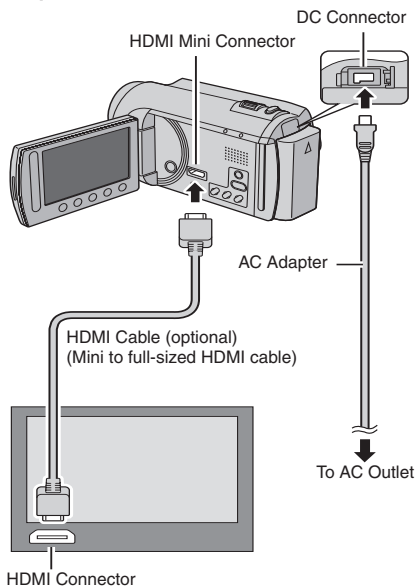
- **[GZ-MG680] [GZ-MG650]** Set [SWITCH TO ANALOG I/O] to [OUTPUT].
- Turn off all units.



■ **[GZ-MG680]** To connect using the HDMI mini connector

We recommend using the Category 2 HDMI cable (High Speed cable).

Preparation: Turn off all units.



NOTE

- When connecting to the HDMI cable, the image or sound may not appear on the TV properly depending on the TV connected. In such cases, perform the following operations.
 - 1) Disconnect the HDMI cable and connect it again.
 - 2) Turn off and on the camcorder again.

Playback Operation

After the connection with TV is completed

- 1 Turn on the camcorder and the TV.
- 2 Set the TV to its VIDEO mode.
- 3 (Only when connecting the camcorder to the VCR/DVD recorder)
Turn on the VCR/DVD recorder, and set the VCR/DVD recorder to its AUX input mode.
- 4 Start playback on the camcorder.
(p. 22, 23)

Managing Files


CAUTION

Do not remove the recording medium or perform any other operation (such as turning off the power) while accessing files. Also, be sure to use the provided AC adapter, as the data on the recording medium may be corrupted if the battery becomes exhausted during operation. If the data on the recording medium becomes corrupted, format the recording medium to use the medium again.

Capturing a Still Image from a Video

You can capture the desired scene from a recorded video, and store it as a still image.

Preparation:

- Select  mode.
- Select the playback mode.

Press SNAPSHOT when playback is paused.

SNAPSHOT





NOTE

- Captured still images are stored at a resolution of 640 x 360 (if the video was recorded in 16:9) or 640 x 480 (if the video was recorded in 4:3). The image can be elongated in the horizontal or vertical directions depending on the quality of the source video file.
- The continuous shooting function cannot be used to capture images.
- You cannot capture video during playback.

Deleting Files

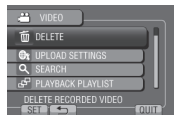
- Protected files cannot be deleted. To delete them, release the protection first.
- Once files are deleted, they cannot be restored. Check files before deleting.

Preparation:

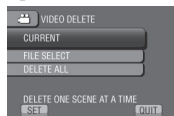
- Select  or  mode.
- Select the playback mode.

1 Touch MENU.

2 Select [DELETE].





3 Select [CURRENT].



4 Select [YES].



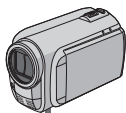
You can select the previous or next file by selecting  or .

■ To quit the screen

Select [QUIT].

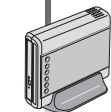
Copying Files

Types of Copying and Connectable Device



The Camcorder

You can copy files between the HDD and microSD card with this camcorder alone.



DVD Burner (CU-VD50/CU-VD3)

You can copy files recorded on this camcorder onto DVD discs.



PC

You can copy files from the camcorder to a DVD using a PC.



VCR/DVD Recorder

You can dub video recorded on this camcorder onto VCR/DVD recorder.

NOTE

It is recommended to use the JVC DVD burner (CU-VD50/CU-VD3). When using CU-VD20 or CU-VD40, the recording time may take approx. 2 times longer than the time that is described in the instruction manual of DVD burner.

Using a DVD Burner

Supported discs: 12cm DVD-R, DVD-RW

- Regarding DVD-R discs, only unused DVD-R discs can be used. Regarding DVD-RW discs, used DVD-RW discs can also be used, but they need to be formatted before recording. Formatting a disc deletes all content recorded on the disc up until that time.
- Dual-layer discs cannot be used.

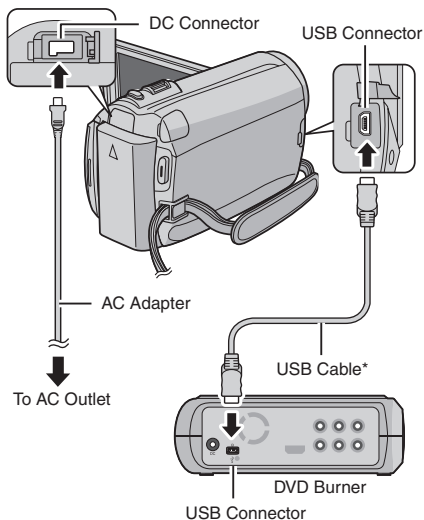
Regarding finalization after copying

The disc is automatically finalized so that it can be played on other devices. After finalizing, the disc is a play-only disc, so no more files can be added.

Connection with a DVD Burner

Preparation:

Turn on the camcorder first, then turn on the DVD burner.




NOTE

- Refer also to the optional DVD burner's instruction manual.
- * Use the USB cable that came with the DVD burner.

Copying Files (Continued)

Backup All Files

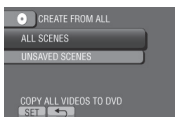
Preparation:

- Connect the camcorder to the DVD burner.
- Select  mode.

1 Select [CREATE FROM ALL].




2 Select the desired menu.



- **[ALL SCENES]:**
All files in the recording medium are copied.
- **[UNSAVED SCENES]:**
Files that have never been copied to a DVD disc are automatically selected and copied.

3 Select the desired disc number.



- If you select [ALL], all discs in the list are created.
- To preview scenes, select [CHECK].
-  mark shows that the disc is created already.

4 Select [YES] or [NO].

- [YES]: Displays the thumbnails by group.
- [NO]: Displays the thumbnails by date.

5 Select [EXECUTE].

- The files are copied on the disc. When [COMPLETED] appears, touch **OK**.
- When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
- To cancel copying, select [STOP].

Copying Video Files that Have Never Been Copied

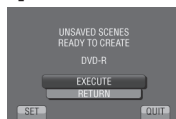
Files that have never been copied to the DVD discs are automatically selected and copied.

1 Open the LCD monitor to turn on the camcorder.

2 Press DIRECT DVD.



3 Select [EXECUTE].




- The DVD disc begins to be created. When [COMPLETED] appears, touch **OK**.
- When [INSERT NEXT DISC PRESS [STOP] TO EXIT CREATE] appears, change the disc. Remaining files are copied on the second disc.
- To cancel the DVD creation, select [CANCEL].

■ To quit the screen

- 1) Select [QUIT].
- 2) When [QUIT?] appears, select [YES].

■ To play back the created disc using the camcorder

- 1) Connect the camcorder to the DVD burner.
- 2) Turn on the camcorder first, then turn on the DVD burner.
- 3) Select [PLAYBACK].
- 4) Select the desired folder.
- 5) Select the creation date of the disc.
- 6) Select the desired file. To return to the previous screen, select .

Creating a DVD using a PC

Please read the “JVC SOFTWARE LICENCE AGREEMENT” in the CD-ROM instruction before you install software. You can copy the data from the camcorder and create a DVD using a PC.

1 Installing the software to the PC

System Requirements

Windows Vista

- OS: Windows Vista®
Home Basic (SP1)
Home Premium (SP1)
(32-bit, pre-installed)
- CPU: Either one of the following:
- Intel® Pentium® 4, 1.6 GHz or higher
 - Intel® Pentium® M, 1.4 GHz or higher
 - Intel® Core™ Duo, 1.5 GHz or higher

RAM: At least 1 GB

Windows XP

- OS: Windows® XP
Home Edition (SP2/SP3)
Professional (SP2/SP3)
(pre-installed)
- CPU: Either one of the following:
- Intel® Pentium® 4, 1.6 GHz or higher
 - Intel® Pentium® M, 1.4 GHz or higher
 - Intel® Core™ Duo, 1.5 GHz or higher

RAM: At least 512 MB

■ To check the PC specification

Right-click on [Computer] (or [My Computer]) in the [Start] menu and select [Properties].

NOTE

- Make sure your PC has a recordable DVD drive.
- If your system does not meet the requirements, it is recommended to copy files using the DVD burner. (p. 27)
- Macintosh users may use the software included with their Macintosh (iMovie '08, iPhoto) to copy files to their computer.

Preparation:

Load the provided CD-ROM into the PC. In Windows Vista, the auto play dialog box appears.

1 Click [Easy Installation].

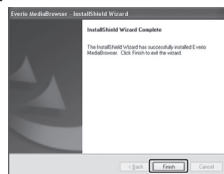


Follow the on-screen instructions.

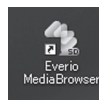
2 Click [Next].



3 Click [Finish].

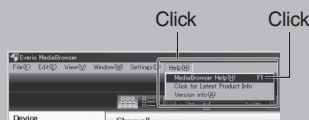


Everio MediaBrowser icon is created on the desktop.



■ To see the Instruction Guide for Everio MediaBrowser

- 1) Double-click the icon of the Everio MediaBrowser.
- 2) Click [Help], and click [MediaBrowser Help].

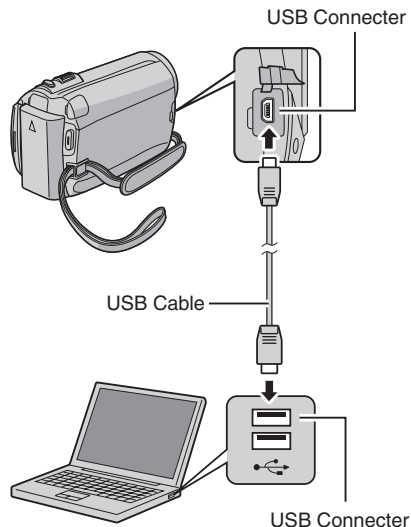


Copying Files (Continued)

2 Making Backup on the PC

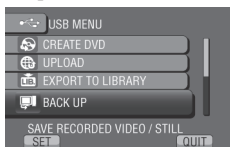
Preparation:

- Install the software to the PC.
- Make sure that enough free space is left in the PC's HDD.
- Close the LCD monitor to turn off the camcorder.



1 Open the LCD monitor to turn on the camcorder.

2 Select [BACK UP].



Everio MediaBrowser starts on the PC.



3 Click [All volume in camcorder] and click [Next].



4 Click [Start].



Backup starts.

■ To disconnect the camcorder from the PC

- 1) Right-click the icon (Safely Remove Hardware) on the task bar and select [Safely remove USB Mass Storage Device].
- 2) Follow the on-screen instructions and make sure that the device can be safely removed.
- 3) Disconnect the USB cable and close the LCD monitor.

NOTE

It takes time to back up many videos.

3 Making User Lists to Arrange the Files

You can make a user list of a certain subject (such as Travel, Athletic meet) and put the files related to the subject into the user list.

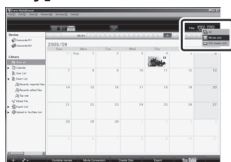
Preparation:

Make backup on the PC.

1 Double-click the icon and open the calendar.



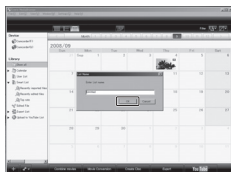
2 Select [Movies only].



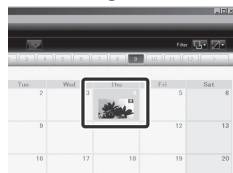
3 Click [+].



4 Input the name of the new user list and click [OK].



5 Double-click the recording date.



The files recorded on the day are displayed.

6 Drag the file and drop into the user list.



To add other files into the user list, repeat steps 5 and 6.

Copying Files (Continued)

④ Copying Files to a DVD

Preparation:

Use a recordable DVD disc. (It is recommended to use a DVD-R disc.)

1 Select the user list and click [Create Disc].



2 Click [Select files individually] and click [Next].

To add all the files onto DVD discs, click [Select all files displayed], then go to step 4.



3 Drag the file, and drop into the part at the bottom and click [Next].



4 Input the disc name, select the top menu style and click [Next].



5 Click [Start].



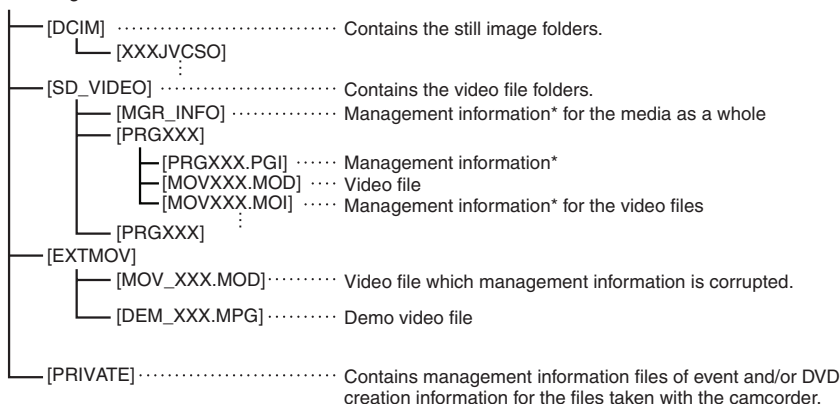
NOTE

- For detail on operating Everio MediaBrowser, click [Help] and refer to [MediaBrowser Help].
- Adobe® Reader® must be installed to read [MediaBrowser Help]. Adobe® Reader® can be loaded from Adobe's web site: <http://www.adobe.com>
- For assistance in operating the provided software, refer to the support information. (p. 33)

Folder Structure and Extensions

Recording medium

X = number



* Information such as the date and time of recording, recorded with the video file.

Customer Support Information

Use of this software is authorized according to the terms of the software license.

JVC

When contacting the nearest JVC office or agency in your country (refer to the JVC Worldwide Service Network at <http://www.jvc-victor.co.jp/english/worldmap/index-e.html>) about this software, please have the following information ready.

- Product Name, Model, Problem, Error Message
- PC (Manufacturer, Model (Desktop/Laptop), CPU, OS, Memory (MB), Available Hard Disk Space (GB))

Please note that it may take some time to respond to your questions, depending on their subject matter. JVC cannot answer questions regarding basic operation of your PC, or questions regarding specifications or performance of the OS, other applications or drivers.

Pixela

Region	Language	Phone #
USA and Canada	English	+1-800-458-4029 (toll-free)
Europe (UK, Germany, France, and Spain)	English/German/French/Spanish	+800-1532-4865 (toll-free)
Other Countries in Europe	English/German/French/Spanish/ Italian/Dutch	+44-1489-564-764
Asia (Philippines)	English	+63-2-438-0090
China	Chinese	+86-21-5385-3786

Homepage: <http://www.pixela.co.jp/oem/jvc/mediabrowser/e/>

Please check our website for latest information and downloading.

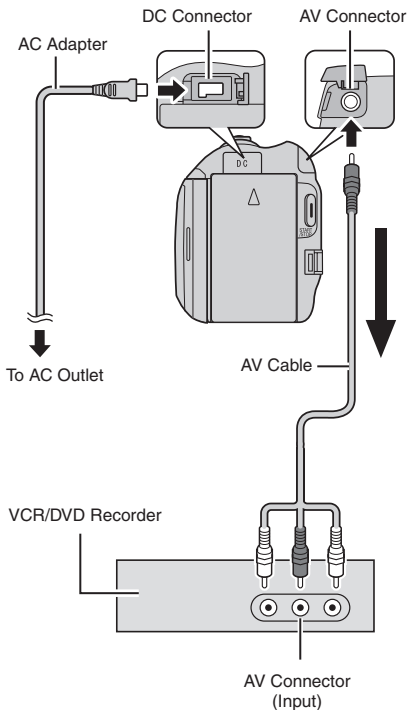
Copying Files (Continued)

Dubbing Files to a VCR/DVD Recorder

Preparation:

- Create a playlist.
- **GZ-MG680** **GZ-MG650** Set [SWITCH TO ANALOG I/O] to [OUTPUT].
- Turn off all units.

■ To connect using the AV connectors (analog dubbing)



1 Open the LCD monitor to turn on the camcorder.

2 Set the VCR/DVD recorder to its AUX input mode.

Check that the images from the camcorder are input correctly to the VCR/DVD recorder.

3 Play back playlists on the camcorder.

- 1) Touch **MENU**.
- 2) Select [DUBBING PLAYBACK].
- 3) Select the desired playlist.
- 4) Select [YES]. (A black screen is displayed for 5 seconds at the first and the last scene.)

4 At the point you want to start dubbing, start recording on the VCR/DVD recorder.

Refer to the VCR/DVD recorder's instruction manual.

■ To stop dubbing

Stop recording on the VCR/DVD recorder.

■ To hide the date or icons on the screen

Change the settings in [DISPLAY ON TV].

Switching indication modes on LCD monitor

Each time you touch **DISPLAY**, indications on LCD monitor switch as shown below;

In recording mode:

All indications/Indications for selected functions

In playback mode:


All indications/Only date and time/No indications

Using with a Portable Media Player

Turning on the Export Mode

You can easily transfer videos recorded in export mode to iTunes®. All the files with the export setting turned on are transferred to PC. For details on transferring, refer to the operation guide of MediaBrowser in the CD-ROM.

Preparation:

- Select  mode.
- Select the recording mode.

Press **EXPORT** twice.




To turn off the export mode

Press **EXPORT** twice.

Changing the Export Setting

You can set the recorded videos to the export setting.

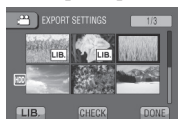
Preparation:

- Select  mode.
- Select the playback mode.

1 Press **EXPORT**.



2 Select the file and set **[LIB.]**.



- To check the content of the file, select **[CHECK]**.

3 Select **[DONE]**.

To cancel the export setting

Select the file and select **[LIB.]** again.

To quit the screen

- 1) Select **[DONE]**.
- 2) Select **[YES]**.

To confirm the export setting

Press **EXPORT** on the index screen.

Transferring the Files to PC

Preparation:

- Install iTunes® on a PC.
<http://www.apple.com/itunes/>

1 Connect the camcorder to the PC with the USB cable.

2 Select **[EXPORT TO LIBRARY]**.



All the files with the export setting turned on are transferred to PC.

Turning on the Upload Mode

You can upload the file to video sharing websites (YouTube™) quickly after recording.

Preparation:

- Select mode.
- Select the recording mode.

Press **UPLOAD** twice.



If you record a file with the upload mode set on, the recording stops automatically 10 minutes after the recording is started. The remaining time is displayed on the LCD monitor.

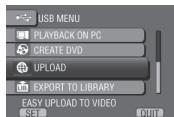
NOTE

The upload mode turns off each time recording is finished.

Uploading Files

For details on uploading files, refer to the operation guide of MediaBrowser in the CD-ROM.

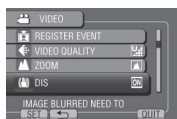
- 1 **Connect the camcorder to the PC with the USB cable.**
- 2 **Select [UPLOAD].**



Changing the Menu Settings

1 Touch MENU.

2 Select the desired menu.



3 Select the desired setting.



■ To return to the previous screen
Select [BACK].

■ To quit the screen
Select [QUIT].

Troubleshooting

Before requesting service, consult the following chart. If the solutions indicated in the chart do not solve the problem, consult your nearest JVC dealer or JVC service center for instructions.

Refer also to the FAQ of new products on JVC's website.

The following phenomena are not malfunctions.

- The camcorder heats up when it is used for a long time.
- The battery heats up during charging.
- When playing back a video, the image stops momentarily or the sound is interrupted at junctions between scenes.
- LCD monitor momentarily become red or black when sunlight is recorded.
- Black spots, or red, green, or blue spots appear on the LCD monitor.
(The LCD monitor contains 99.99% effective pixels, but 0.01% of fewer pixels may be ineffective.)

Trouble		Action
Power	No power is supplied.	<ul style="list-style-type: none">● Connect the AC adapter correctly.● Recharge the battery pack.
Display	The remaining battery display is not correct.	<ul style="list-style-type: none">● Fully charge the battery pack, run it down, and then recharge it again.● If the camcorder is used for long periods of time in high or low temperatures, or if the battery pack is repeatedly charged, the amount of remaining battery may not be displayed correctly.
	The LCD monitor is difficult to see.	
		<ul style="list-style-type: none">● The LCD monitor may be difficult to see if used in bright areas such as under direct sunlight.

Troubleshooting (Continued)

Trouble		Action
Recording	Recording cannot be performed.	<ul style="list-style-type: none"> Slide the mode switch to select the desired mode (👤 or 📷).
	Recording stops by itself.	<ul style="list-style-type: none"> If the camcorder temperature increases, REC flashes in the LCD monitor and recording stops automatically to protect the HDD. Turn off the camcorder, wait for a while, and start recording again. Move away from a place where the camcorder is affected by excessive sound or vibration (such as a concert hall). A malfunction may occur in the HDD of the camcorder. In this case, record to a microSD card. Insert a commercially available microSD card, and set each of the [REC MEDIA FOR VIDEO] and [REC MEDIA FOR IMAGE] to [SD]. Recording stops automatically after 12 hours of continuous recording.
Playback	Sound or video are interrupted.	<ul style="list-style-type: none"> Sometimes playback is interrupted at the connecting section between two scenes. This is not a malfunction.
	Cannot find a recorded video.	<ul style="list-style-type: none"> Select [PLAYBACK MPG FILE] then search the video on the index screen. (Video files that have damaged management information can be played back.) Cancel group display and date search functions. Change the setting in [REC MEDIA FOR VIDEO] or [REC MEDIA FOR IMAGE]. (Files on other media are not displayed.)
Other problems	The lamp does not flash during battery pack charging.	<ul style="list-style-type: none"> Check the remaining battery pack charge. (When the battery pack is fully charged, the lamp does not flash.) When recharging in either a hot or cold environment, ensure that battery is being charged within the permitted temperature range. (If the battery pack is being recharged outside the permitted temperature range, recharging may stop to protect the battery pack.)
	[GZ-MG680] When connecting to the HDMI cable, the image or sound does not appear on the TV properly.	<ul style="list-style-type: none"> When connecting to the HDMI cable, the image or sound may not appear on the TV properly depending on the TV connected. In such cases, perform the following operations. 1) Disconnect the HDMI cable and connect it again. 2) Turn off and on the camcorder again.
	[GZ-MG680] HDMI-CEC functions do not work properly, and the TV does not work in conjunction with the camcorder.	<ul style="list-style-type: none"> TVs may operate differently depending on the specifications, even if they are HDMI-CEC compliant. Therefore, the HDMI-CEC functions of the camcorder cannot be guaranteed to operate in combination with all the TVs. In such cases, set [HDMI CONTROL] to [OFF].

■ If a malfunction occurs in the HDD

- 1 Perform [FORMAT HDD]. (All data is deleted.)
- 2 If this does not solve the problem, perform the disc check function from a PC after formatting.
- 3 If this does not solve the problem, contact the JVC customer service for repairs.

■ To reset the camcorder when it does not operate normally

- 1 Close the LCD monitor and remove the power supply (battery pack or AC adapter) from the camcorder, then reattach it.
- 2 Execute [FACTORY PRESET].

Warning Indications

Indication	Action
SET DATE/TIME!	<ul style="list-style-type: none"> ● Set the clock. If the message still appears after setting the clock, the battery for the clock has been depleted. Consult your nearest JVC dealer.
COMMUNICATING ERROR	<ul style="list-style-type: none"> ● Be sure to use JVC battery packs.
CANNOT USE IN VIDEO MODE	<ul style="list-style-type: none"> ● Set [REC MEDIA FOR VIDEO] to [HDD]. ● Replace the microSD card.
NOT FORMATTED	<ul style="list-style-type: none"> ● Select [OK] and select [YES] to perform formatting.
FORMAT ERROR!	<ul style="list-style-type: none"> ● Check the operating procedure, and perform once again. ● Turn off the camcorder, and turn it on again.
DATA DELETION ERROR	
HDD ERROR!	<ul style="list-style-type: none"> ● Perform formatting. (All data is deleted.) ● Turn off the camcorder, and turn it on again.
MEMORY CARD ERROR!	<ul style="list-style-type: none"> ● Perform formatting. (All data is deleted.) ● Remove and re-insert the microSD card. (MultiMediaCard cannot be used.) ● Remove any dirt from the microSD card terminals. ● Insert the microSD card before switching the power on. ● Turn off the camcorder, and turn it on again.
CANNOT TAKE MORE STILL IMAGES AT THE MOMENT	<ul style="list-style-type: none"> ● Stop video recording, and then record a still image. (If an microSD card is removed or inserted during video recording, a still image cannot be recorded.)
DROP DETECTION WORKED AND THE POWER IS TURNED OFF	<ul style="list-style-type: none"> ● Set [REC MEDIA FOR VIDEO] to [SD], then record to a microSD card. ● Turn off the camcorder and turn it on again. ● Prevent the camcorder from vibration and shock.
RECORDING CANCELLED	
RECORDING FAILURE	<p>microSD card:</p> <ul style="list-style-type: none"> ● Remove and re-insert the microSD card. (MultiMediaCard cannot be used.) ● Remove any dirt from the microSD card terminals. ● Insert the microSD card before switching the power on. <p>HDD:</p> <ul style="list-style-type: none"> ● Do not allow the camcorder to be subject to impact/vibrations.
PLAYBACK FAILED	

Specifications

■ General

Power supply

- DC 11 V (Using AC adapter)
- DC 7.2 V (Using battery pack)

Power consumption

- Approx. 2.3 W*
- * When the LED light is off and the monitor backlight is set to [STANDARD] mode.
- Rated Current Consumption: 1A

Dimensions (W x H x D)

- 53 mm x 68 mm x 113 mm
- (2-1/8" x 2-11/16" x 4-1/2")

Weight

- Approx. 305 g (0.68 lbs)
- Approx. 350 g (0.78 lbs) (incl. battery pack)

Operating temperature

- 0°C to 40°C (32°F to 104°F)

Storage temperature

- 20°C to 50°C (-4°F to 122°F)

Operating humidity

- 35% to 80%

■ Camera/LCD monitor

Pickup

- 1/6" (800,000 pixels) CCD

Lens

- F 1.8 to 4.0, f = 2.2 mm to 77.0 mm,
- 35:1 power zoom lens

Filter diameter

- ø30.5 mm

LCD monitor

- 2.7" diagonally measured,
- LCD panel/TFT active matrix system

LED Light

- Within 1.5 m (4.9 ft)
- (recommended shooting distance)

■ Connectors

AV input/output

- Video input*: 0.8 V (p-p) to 1.2 V (p-p), 75 Ω
- Video output: 1.0 V (p-p), 75 Ω
- Audio input*: 300 mV (rms), 50 kΩ
- Audio output: 300 mV (rms), 1 kΩ
- * [GZ-MG680] [GZ-MG650] only

[GZ-MG680] HDMI

- HDMI Mini Connector

USB

- Mini USB type A and type B,
- USB 2.0 compliant

■ AC Adapter

Power requirement

- AC 110 V to 240 V~, 50 Hz/60 Hz

Output

- DC 11 V —, 1 A

■ Remote Control

Power supply

- DC 3 V

Battery life

- Approx. 1 year
- (depending on the frequency of use)

Operating distance

- Within 5 m (16.4 ft)

Operating temperature

- 0°C to 40°C (32°F to 104°F)

Dimensions (W x H x D)

- 42 mm x 14.5 mm x 91 mm
- (1-11/16" x 5/8" x 3-5/8")

Weight

- Approx. 30 g (0.07 lbs)
- (incl. battery)

■ Still image

Format

- JPEG

Image size

- 832 x 624

Image quality

- FINE / STANDARD

■ Video

Signal format

- NTSC standard

Recording/Playback format

- Video: MPEG-2
- Audio: Dolby Digital (2ch)

Recording mode (video)

- ULTRA FINE: 720 x 480 pixels, 8.5 Mbps (VBR)
- FINE: 720 x 480 pixels, 5.5 Mbps (VBR)
- NORMAL: 720 x 480 pixels, 4.2 Mbps (VBR)
- ECONOMY: 352 x 240 pixels, 1.5 Mbps (VBR)

Recording mode (audio)

- ULTRA FINE: 48 kHz, 384 kbps
- FINE: 48 kHz, 384 kbps
- NORMAL: 48 kHz, 256 kbps
- ECONOMY: 48 kHz, 128 kbps

Design and specifications subject to change without notice.

h: hour/m: minute

Approximate recordable time (for video)

Recording medium Quality	HDD			microSD Card	
	GZ-MG630 60 GB	GZ-MG650 80 GB	GZ-MG680 120 GB	4 GB	8 GB
ULTRA FINE	14 h 20 m	19 h 00 m	28 h 40 m	57 m	1 h 54 m
FINE	21 h 20 m	28 h 20 m	42 h 40 m	1 h 25 m	2 h 50 m
NORMAL	28 h 10 m	37 h 40 m	56 h 20 m	1 h 53 m	3 h 46 m
ECONOMY	75 h 00 m	100 h 00 m	150 h 00 m	4 h 58 m	9 h 56 m

Approximate number of images (for still image)

The HDD can record up to 9999 still images in either mode.

Recording medium		microSD Card					
Image size/Quality		256 MB	512 MB	1 GB	2 GB	4 GB	8 GB
4:3	832 x 624 / FINE	1010	2050	4160	7625	9999	9999
	832 x 624 / STANDARD	1515	3080	6240	9999	9999	9999

h: hour/m: minute

Required charging/recording time (approx.)

Battery pack	Charging time	Recording time
BN-VF808U (Provided)	1 h 50 m	2 h 5 m*
BN-VF815U	2 h 40 m	4 h 15 m*
BN-VF823U	3 h 40 m	6 h 25 m*

* When the LED light is off and the monitor backlight is set to [STANDARD] mode.

Cautions

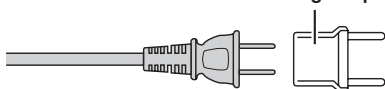
AC Adapter

USING HOUSEHOLD AC PLUG ADAPTER

In case of connecting the unit's power cord to an AC wall outlet other than American National Standard C73 series type use an AC plug adapter, called a "Siemens Plug", as shown.

For this AC plug adapter, consult your nearest JVC dealer.

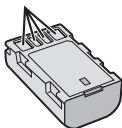
Plug Adapter



Battery Pack

The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:

Terminals



- **To avoid hazards**

- ... **do not burn.**
- ... **do not** short-circuit the terminals. Keep it away from metallic objects when not in use. When transporting, make sure the provided battery cap is attached to the battery. If the battery cap is misplaced, carry the battery in a plastic bag.
- ... **do not** modify or disassemble.
- ... **do not** expose the battery to temperatures exceeding 60°C (140°F), as this may cause the battery to overheat, explode or catch fire.
- ... use only specified chargers.

- **To prevent damage and prolong service life**

- ... do not subject to unnecessary shock.
- ... charge within the temperature range of 10°C to 35°C (50°F to 95°F). Cooler temperatures require longer charging time, or in some cases stop charging at all. Warmer temperatures prevent complete charging, or in some cases stop charging at all.
- ... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
- ... fully charge and then fully discharge the battery every 6 months when storing the battery pack over a long period of time.
- ... remove from charger or powered unit when not in use, as some machines use current even when switched off.

ATTENTION:



The product you have purchased is powered by a rechargeable battery that is recyclable.

Please call 1-800-8-BATTERY for information on how to recycle this battery.

Recording Medium

- **Be sure to follow the guidelines below to prevent corruption or damage to your recorded data.**
- Do not bend or drop the recording medium, or subject it to strong pressure, jolts or vibrations.
- Do not splash the recording medium with water.
- Do not use, replace, or store the recording medium in locations that are exposed to strong static electricity or electrical noise.
- Do not turn off the camcorder power or remove the battery or AC adapter during shooting, playback, or when otherwise accessing the recording medium.
- Do not bring the recording medium near objects that have a strong magnetic field or that emit strong electromagnetic waves.
- Do not store the recording medium in locations with high temperature or high humidity.
- Do not touch the metal parts.
- When formatting or erasing data using the camcorder, only the file administration information is changed. The data is not completely erased from the hard disk. If you want to completely erase all of the data, we recommend either using commercially available software that is specially designed for that purpose, or by physically destroying the camcorder with a hammer etc.

Hard Disk

- Do not use the unit where it is subject to vibrations or loud sounds.
- If you move the unit suddenly, the drop detection function may operate and the power may be turned off.

LCD Monitor

- **To prevent damage to the LCD monitor, DO NOT**
- ... push it strongly or apply any shocks.
- ... place the camcorder with LCD monitor on the bottom.
- **To prolong service life**
- ... avoid rubbing it with coarse cloth.

Main Unit

● For safety, DO NOT

- ... open the camcorder's chassis.
- ... disassemble or modify the unit.
- ... allow inflammables, water or metallic objects to enter the unit.
- ... remove the battery pack or disconnect the power supply while the power is on.
- ... leave the battery pack attached when the camcorder is not in use.
- ... place naked flame sources, such as lighted candles, on the apparatus.
- ... expose the apparatus to dripping or splashing.
- ... leave dust or metal objects adhered to the power plug or an AC wall outlet.
- ... insert any objects in the camcorder.

● Avoid using the unit

- ... in places subject to excessive humidity or dust.
- ... in places subject to soot or steam such as near a cooking stove.
- ... in places subject to excessive shock or vibration.
- ... near a television set.
- ... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- ... in places subject to extremely high (over 40°C or 104°F) or extremely low (under 0°C or 32°F) temperatures.
- ... in places where air pressure is low (more than 3000 m (9870 ft) above the sea level).

● DO NOT leave the unit

- ... in places of over 50°C (122°F).
- ... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
- ... in direct sunlight.
- ... in a closed car in summer.
- ... near a heater.
- ... in high places such as on a TV. Leaving the unit in high places while a cable is connected may result in a malfunction if the cable is caught and the unit falls onto the floor.

● To protect the unit, DO NOT

- ... allow it to become wet.
- ... drop the unit or strike it against hard objects.
- ... subject it to shock or excessive vibration during transportation.
- ... keep the lens directed at extremely bright objects for long periods.
- ... expose the lens to direct sunlight.
- ... swing it excessively when using the hand strap.
- ... swing the soft camcorder case excessively when the camcorder is inside it.
- ... place the camcorder in dusty or sandy areas, such as on a beach.

● To prevent the unit from dropping,

- Fasten the grip belt securely.
 - When using the camcorder with a tripod, attach the camcorder to the tripod securely.
- If the camcorder drops, you may be injured and the camcorder may be damaged.
When a child uses the unit, there must be parental guidance.

Changes or modifications not approved by JVC could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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